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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,237	10/09/2003	Kyung-Hee Lee	678-1208 (P10484)	1019

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EXAMINER	
CAI, WAYNE HUU	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/682,237	LEE ET AL.	
	Examiner	Art Unit	
	Wayne Cai	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-11 and 20-29* is/are allowed.

6)☒ Claim(s) *12-15 and 30-33* is/are rejected.

7)☒ Claim(s) *16-19,34 and 35* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Amendment dated January 30, 2006.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Response to Arguments

1. Applicant's arguments filed have been fully considered but they are not persuasive.

The Applicants argue that Yatsukawa fails to teach or suggest ***a next authentication*** as recited in independent claim 12 (see page 11 of the Remarks). The Examiner respectfully disagrees with the arguments because Yatsukawa teaches at column 16, lines 13-30:

> "As will be described later, the seed data D is used by the client for generating authentication data. Once an authentication request using the authentication data is granted, the client stores the generated authentication data to be used as seed data for generating authentication data for requesting authentication at the next log-in. **Meanwhile, the server collates the received authentication data with the inspection data D stored in advance, and if it is verified, the server stores the received authentication data to be used as inspection data at the next log-in request from the client.** In the system according to the present embodiment, since a value of seed data stored in the authentication-data-generating seed data file 204 is coincident with a value of inspection data stored in the inspection data file 105 at the server side, the value is expressed as D_{n-1} in FIG. 13, for the purpose of descriptive convenience. Herein, the seed data and inspection data are expressed by D_{n-1} in general because the data is generated at the previous log-in."

Clearly, the passage above teaches about authentication information to be used during ***next authentication***. Hence, previous office action was appropriate.

Furthermore, the Applicants argue that the cited reference fails to teach ***temporary identification of the mobile node*** (see page 12, first full paragraph of the Remarks). The Examiner once again disagrees with the Applicants because temporary identification is interpreted as an id such as client's email address, user's ID name and the like as taught by Yatsukawa (see col. 16, lines 4-12.) This identification is used to secure the communication but only temporarily used during the session. One skilled in the art would know that temporary identification could be an ID, mobile phone number, MAC, etc. Hence, the feature is known in the art and not novel.

In response to Applicants' arguments regarding claim 31 (see page 12, second full paragraph of the Remarks), the Examiner apologizes for the confusion created by the way the rejection was written. The rejection contained a simple typographical error that has been corrected. The rejection was solely base don Yatsukawa as indicated by the citations and the heading of the rejection.

Furthermore, the Applicants argue in the very last paragraph of page 12 of the Remarks that Yatsukawa does not use previous authentication information. This is not true because as explained above, Yatsukawa teaches using the initial seed data D_{s0} to generate the authentication data. In addition, the client stores the generated authentication data to be used as seed data for generating authentication data for requesting authentication at the next log-in means that in the next log-in or next authentication, the seed data has been previously generated and stored by the mobile

node could be used again during the next authentication process. Hence, the claimed feature was taught by the provided prior art, and therefore previous rejection was proper.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-15, and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Yatsukawa (US – 6,148,404).

Regarding claim 12, Yatsukawa discloses a method for performing authentication by a mobile node in a wireless local area network including at least two access points for setting up wireless association with the mobile node and an authentication server for authenticating the mobile node, the method comprising the steps of:

- when associating with a first access point and performing initial authentication, generating a first private key with a secret previously shared with the authentication server (col. 16, lines 56-61);
- generating first authentication information to be used during next authentication request, and transmitting a first enciphered message

generated by enciphering the first authentication information with the first private key to the authentication server (col. 16, lines 61-67);

- upon receiving a second enciphered message from the authentication server in response to the first enciphered message, acquiring a first session key by deciphering the second enciphered message with the first private key (col. 17, lines 1-13);
- performing secure communication with the first access point by using the first session key (col. 17, lines 14-18).

Regarding claim 13, Yatsukawa discloses the method of claim 12 as described above. Yatsukawa also discloses wherein the first authentication information includes a temporary identifier of the mobile node, a password for generating a private key to be used during next authentication, and a random number (col. 16, lines 45-52; fig. 2, "A1").

Regarding claim 14, Yatsukawa discloses the method of claim 13 as described above. Yatsukawa also discloses wherein the first enciphered message includes a permanent identifier of the mobile node and the first authentication information (fig. 5, "authentication token").

Regarding claim 15, Yatsukawa discloses the method of claim 13 as described above. Yatsukawa also discloses wherein the second enciphered message includes the random number and the first session key (fig. 6, "C5" and its descriptions).

Regarding claim 30, Yatsukawa discloses a method of performing authentication of a mobile node by an access point with which the mobile node initially

associates or re-associates due to handover, in a wireless local area network including the access point for setting up association with the mobile node and an authentication server for authenticating the mobile node, the method comprising the steps of (title, and abstract):

- when associating with the mobile node and performing authentication, receiving an enciphered message from the authentication server (col. 16, lines 53-67);
- acquiring a session key for secure communication with the mobile node by deciphering the enciphered message with a private key previously shared with the authentication server (col. 17, lines 1-13);
- performing secure communication with the mobile node by using the session key (col. 17, lines 14-18).

Regarding claim 31, Yatsukawa discloses the method of claim 30 as described above. Yatsukawa also discloses wherein the enciphered message includes a temporary identifier generated by the mobile node during previous authentication, and a random number (figs. 3, 5 & 6; and its descriptions).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatsukawa in view of Zhang et al. (hereinafter "Zhang") (US 2002/0174335 A1).

Regarding claim 32, Yatsukawa discloses a method for authenticating a mobile node in a wireless local area network including at least two access points for setting up wireless association between the mobile node and an authentication server for authenticating the mobile node, the method comprising the steps of:

- generating, at the mobile node, a mobile private key with a security word shared with the authentication server (col. 16, lines 56-61);
- generating authentication information to be used in a next authentication procedure (col. 16, lines 13-30);
- transmitting the authentication information to the authentication server (abstract);

Yatsukawa fails to disclose:

- transmitting a session key from the authentication server to the mobile node and the access point; and
- communicating between the mobile terminal and the access point using the session key.

In a similar endeavor, Zhang discloses an IP-based AAA scheme for wireless LAN virtual operators. Zhang further teaches:

- transmitting a session key from the authentication server to the mobile node and the access point (paragraph 0045); and

- communicating between the mobile terminal and the access point using the session key (paragraph 0045).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Yatsukawa's invention with transmitting a session key from the authentication server in order to secure the communication between the devices in the network.

Regarding claim 33, Yatsukawa, and Zhang disclose the method of claim 32 as described above. Yatsukawa further discloses wherein the step of transmitting the authentication information includes:

- generating a first enciphered message by enciphering the first authentication information with the mobile private key (fig. 4, and its descriptions); and
- transmitting the first enciphered message to the authentication server (fig. 4, and its descriptions).

Allowable Subject Matter

6. Claims 1-11, 20-29 are allowed. Independent claims 1 and 20 are allowed as previously indicated in Office Action dated October 28, 2005.

7. Claims 16-19 (previously indicated in Office Action dated October 28, 2005), and 34-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohba et al. (US 2004/0098588)

Norefors et al. (US 6,370,380)

Redlich et al. (US 2002/0138635)

Faccin et al. (US 6,876,747)

Rose (US 6,771,776)

Meier (US 2004/0103282)

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday-Friday; 9:00-6:00; alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wayne Cai
Examiner
Art Unit 2617

ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER